

Appl. No. **10 731 757**
Amdt. dated February 24, 2006
Reply to Office action mailed February 6, 2006

REMARKS/ARGUMENTS

Claim 8 has been amended to depend on claim 19 which is directed to the subject matter of canceled claim 4. Entry of the amendment is requested to reduce the issues for appeal.

Status of the Claims

Claims 1-3, 6-13, and 16-26 are pending and under consideration.

Statement of the Rejections

Claim 8 was rejected under 35 U.S.C. §112, second paragraph. The claim has been amended to depend on claim 19 which is directed to the subject matter of canceled claim 4.

Claims 9-13 and 16-26 have not been rejected over prior art. These claims have been provisionally rejected as double patenting of the obviousness type over commonly owned copending Serial Nos. 10 480 056 and 10 480 180. These applications are presently under rejection. The rejections will be addressed if either or both of these applications are allowed before the present application.

Claims 1-3, 6, and 7 stand rejected under 35 U.S.C. §103 as unpatentable over Ohtsuka et al. in view of Morgan et al. Ohtsuka et al. disclose compositions of a base thermoplastic resin, a thermosetting epoxy resin or a thermosetting phenolic resin. In col. 2, lines 25-29, Ohtsuka et al. disclose that the thermosetting epoxy resin is crosslinked with phenol formaldehyde. Claims 1 and 4 recite that the thermosetting phenolic resin is crosslinked.

Applicants's phenol resin derivatives of formula (I) are not the same as the thermosetting phenolic resins of Ohtsuka et al. (col. 1, line 51). Phenol resins have the formula shown as formula (X) in Applicants' comparative examples (paragraph 0066 of the published application).

Morgan et al. was cited for the disclosure of flame retardants for polycarbonates, epoxies, and phenol-aldehydes and a particular phosphoramidate disclosed in example 3.

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The disclosure of epoxy resins relied upon by the Examiner in col. 15 also teaches that the epoxy resins are “subsequently cured by the addition of crosslinking agents” (lines 34-35).

The Examiner has maintained his position that it “would have been prima facie obvious to use any flame retardant in Ohtsuka’s composition for the expected results”.

Claims 1-3, 6, and 7 stand rejected under 35 U.S.C. §103 as unpatentable over Helmond in view of Morgan et al. Helmond discloses a mixture of a saturated polyester resin, an epoxy novolac, a glass reinforcing filler, and a catalyst. Morpholide flame retardants are not disclosed or suggested. Morgan et al. is again relied upon for the disclosure of flame retardants for polycarbonates, epoxies, and phenol-aldehydes and a particular phosphoramidate disclosed in example 3.

The Examiner has maintained his position that it “would have been prima facie obvious to use any flame retardant in Helmond’s composition for the expected result”.

Applicants' Traversal

Applicants traverse the rejections and respectfully request reconsideration in view of the following discussion.

Applicants submit that the Examiner has not established a prima facie case of obviousness of claims 1-3, 6, and 7 over Ohtsuka et al. in view of Morgan et al. Applicants also submit that the Examiner has not established a prima facie case of obviousness of claims 1-3, 6, and 7 over Helmond in view of Morgan et al.

The combination of Ohtsuka et al. and Morgan et al. does not result in Applicants' claimed compositions

The arguments presented in the Amendment of November 25, 2005 are herein incorporated by reference. The disclosure in col. 2, lines 25-29 of Ohtsuka et al. was cited therein. Ohtsuka et al. specifically disclose that their “thermosetting epoxy resin” is crosslinked with phenol formaldehyde:

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For the thermosetting epoxy resin, it is desirable to use a product produced by mixing an appropriate amount of ortho-cresol novolac epoxy, phenol formaldehyde and sintered kaolin, *kneading under heat to produce crosslinking*, then pulverizing, and screening. (emphasis added)

Claims 1 and 4 of the reference recite that the phenolic resins are crosslinked. The crosslinked product in the composition results in a granular appearance like marble (col. 2, lines 17-19). The crosslinked product does *not* “qualify” as Applicants’ phenol resin derivative. Applicants’ phenol resin derivative is not crosslinked.

Applicants’ phenol resin derivatives of formula (I) are *not* the same as the thermosetting phenolic resins of Ohtsuka et al. (co. 1, line 51). Phenol resins have the formula shown as formula (X) in Applicants’ comparative examples (paragraph 0066 of the published application). Claims 1 and 4 of the reference state that the thermosetting phenolic resin is crosslinked.

There is no motivation or suggestion in Ohtsuka et al. to use the morpholide flame retardants of Morgan et al. to result in Applicants’ claimed compositions.

The relevant arguments presented in the Amendment of November 25, 2005 are herein incorporated by reference.

Neither Ohtsuka et al. nor Morgan et al. disclose Applicants’ uncrosslinked phenol resin derivatives of formula (I). As noted previously, the combination of the references do not result in Applicants’ claimed compositions. It is also noted that Ohtsuka et al. do not disclose any specific type of flame retardant that would be suitable for use in their particular compositions. The only teaching relating to flame retardants is the phrase, “flame retardants” in a lengthy list of possible additives in col. 2, lines 53-59. It is well established that the fact that references can be modified or combined is *not* sufficient to establish *prima facie* obviousness. The Examiner’s position that it would have been obvious “to use any flame retardant in Ohtsuka’s composition for the expected results” is not supported by the Ohtsuka et al. which does not specify any specific flame retardant whatsoever. The

reference is not enabling for any specific flame retardant and certainly not enabling for the use of the morpholide flame retardants of the present claims.

It is noted that, like the epoxy resins of Ohtsuka et al., the epoxy resins in col. 15 of Morgan et al. are also "subsequently cured by the addition of crosslinking agents" (lines 34-35). The crosslinked resins are different from Applicants' phenol derivatives of formula (I) which are not crosslinked. Therefore, since neither Ohtsuka et al. nor Morgan et al. disclose the phenol resin derivatives of Applicants' claims, combination of the references does not establish a *prima facie* case of obviousness.

The Examiner is requested to provide a reference or affidavit or declaration to support his conclusion that there would be a reasonable expectation of success from the use of the morpholides of Morgan et al. in the compositions of Ohtsuka et al.

The relevant arguments presented in the Amendment of November 25, 2005 are herein incorporated by reference.

The Examiner is requested to provide a reference or affidavit or declaration to support his conclusion that the use of the morpholides of Morgan et al. in the compositions of Ohtsuka et al. would provide "the expected results". (MPEP 2144.03 section C.).

Morgan et al. disclose lengthy lists of possible resins but do not disclose the use of their flame retardants 1) with Applicants' uncrosslinked phenol resin derivatives or 2) in mixtures of resins. Ohtsuka et al. do not disclose uncrosslinked epoxy resins or phenol resin derivatives of formula (I) in the mixtures disclosed therein. The burden is on the Examiner to provide evidence or technical reasoning to support a reasonable expectation of success of obtaining flame retardancy in mixtures according to Applicants' claims when neither Ohtsuka et al. nor Morgan et al. disclose Applicants' uncrosslinked phenol resin derivatives of formula (I). The references are directed to 1) crosslinked epoxy resins which are different from the uncrosslinked resins of Applicants' claims or 2) phenolic resins which are outside the scope of the claims. The claims of Ohtsuka et al. indicate that their phenolic resin are also crosslinked.

The Examiner is also requested to provide a reference or affidavit or declaration to support his broad conclusions that 1) the phosphoroamidates of Morgan et al. are “nonreactive” in all compositions and 2) can be used in mixtures of resins such as the mixtures of Applicants’ claims. The burden is on the Examiner, not the Applicants, to support his conclusions. It is noted that organic flame retardants are different from inorganic flame retardants and other inorganic additives, e.g., glass fibers, in that organic compounds are certainly more reactive, especially to the heat of processing and combustion than inorganic materials. Furthermore, it is well known in the art that the reaction products of flame retardants during and after processing and/or combustion are important considerations in their selection, e.g., halogenated organic flame retardants can produce toxic gases during processing and/or combustion.

There is no motivation or suggestion in Helmund to use the morpholide flame retardants of Morgan et al. to result in Applicants’ claimed compositions.

The arguments presented in the Amendment of November 25, 2005 are herein incorporated by reference.

The Examiner’s position that it would have been obvious “to use any flame retardant in Helmund’s composition for the expected results” is not supported by the reference. The reference specifically discloses general types of flame retardants; there is no disclosure or basis for the Examiner’s conclusion that “any flame retardant” could be used. In fact, there are *no* examples of compositions containing any flame retardants in Helmund. Although red phosphorous and triphenyl phosphate are disclosed as possible phosphorous-containing flame retardants (col. 7, lines 9-13, there is no disclosure of any phosphorous-nitrogen flame retardants. Applicants submit that there is nothing in Helmund that would motivate one skilled in the art to combine the teaching of Morgan et al. to select the morpholide flame retardants for use in the compositions of Helmund. Morgan et al. do not disclose the epoxy novolac resins of either Helmund or Applicants’ claims. Therefore, Morgan et al. do not provide motivation to combine its disclosure with that of Helmund which is directed to specific mixtures containing uncrosslinked epoxy novolac resins since Morgan et al. do not

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disclose the use of their flame retardants 1) with either uncrosslinked epoxy resins or uncrosslinked phenol resin derivatives or 2) in mixtures of resins.

The Examiner is requested to provide a reference to support his conclusion that there would be a reasonable expectation of success from the use of the morpholides of Morgan et al. in the compositions of Helmund

The arguments presented in the Amendment of November 25, 2005 are herein incorporated by reference.

Applicants request that the Examiner provide a reference or affidavit or declaration to support his conclusion that the morpholides of Morgan et al. in the compositions of Helmund would provide "the expected results". The Examiner is also requested to provide a reference or affidavit or declaration to support his position that the phosphoroamidates of Morgan et al. can be used in mixtures of resins such as the mixtures of Applicants' claims. The burden is on the Examiner, not the Applicants, to support his conclusion, especially since Morgan et al. do not disclose Applicants' uncrosslinked phenol resin derivatives.

The above discussion in connection with the combination of Ohtsuka et al. and Morgan et al. and request for references are herein incorporated by reference.

Helmund does not disclose or suggest phosphoroamidates as flame retardants. Applicants submit that the general disclosure of using flame retardants containing "chemical elements" including phosphorous and nitrogen "to impart" flame retardance (col. 6, lines 52-54) is not sufficient to motivate one skilled in the art to use the particular phosphoroamidates of Morgan et al. as flame retardants.

It is also noted that the compositions of Helmund et al. contain a catalyst which could have an effect on any flame retardant which is added in the presence of the catalyst or by residual catalyst remaining after the extrusion process. Applicants submit that the burden is on the Examiner to support a reasonable expectation of success of using phosphoramidates in the presence of the catalyst used in the compositions of Helmund.

It is again noted that the crosslinked epoxy resins disclosed in Morgan et al. are different from the uncrosslinked epoxy novolac resin of Helmund and the uncrosslinked

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phenol resin derivatives of Applicants' claims. Morgan et al. do not disclose the use of their flame retardants 1) with uncrosslinked epoxy resins or uncrosslinked phenol resin derivatives or 2) in mixtures of resins. In view of the foregoing, Applicants submit that the Examiner has not provided sufficient evidence that Helmund or Morgan et al. or a combination thereof provide any basis for a reasonable expectation of success.

The dependent claims are patentable over the prior art cited by the Examiner since the *prima facie* case of obviousness has not been established for the independent claim

The dependent claims rejected over the prior art are preferred embodiments of the compositions of claim 1. Since a *prima facie* case of obviousness had not been established against claim 1, Applicants submit that the dependent claims are allowable over the prior art.

MPEP 707.07(d) Language to be Used in Rejecting Claims provides that "everything of a personal nature must be avoided"

The Examiner's statement that the undersigned "mischaracterized" a reference and the use of the term "spurious" are not well taken. MPEP 707.07(d) provides that "everything of a personal nature must be avoided". The undersigned submits that this applies to the Examiner's comments about Applicants' arguments as well as the patentable merits of the claims.

Regardless of the circumstances, the undersigned submits that the use of terms such as "mischaracterize" and "spurious" are of a personal and derogatory nature and should *not* be used in describing arguments made in response to a rejection.

In this case, the undersigned did not "mischaracterize" the reference. Applicants' phenol resin derivatives of formula (I) are not the same as the thermosetting phenolic resins of Ohtsuka et al. Phenol resins have the formula shown as formula (X) in Applicants' comparative examples (paragraph 0066 of the published application). Moreover, the claims of Ohtsuka et al. recite phenolic resins which are crosslinked.

The undersigned submits that the characterization of Applicants' phenol resin derivative as thermoplastic has basis in the fact that uncrosslinked phenol epoxy resin is

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used without a crosslinking agent in Applicants' claimed compositions. In any case, the use of the term "spurious" with its derogatory denotations and connotations was totally inappropriate in an Office action.

In view of MPEP 707.07, the Examiner is requested to withdraw the statements noted above from the record.

Applicants submit that a review of the prior art of record as a whole shows that the claims in the present application meet the requirements for patentability. It is respectfully requested that the Examiner reconsider his rejections of the claims and allow claims 1-3, 6-13, and 16-26.

Respectfully submitted,

YANG ET AL

BY



Maria Parrish Tungol

Registration No. 31,720

Telephone: (571) 275-1111